CLAIMS

1. An antiseismic support pad comprising a base (15) for supporting and holding the pad (8) on a support surface (1a), at least one spherical rolling element (16) mounted to rotate freely about a center of rotation in a bearing (17) secured to the support base (15), and a support plate (18) resting on the spherical rolling element (16) via a concave bearing surface (18a), the pad being characterized by the fact that the support base (15) comprises a soleplate (20) secured to at least one bearing (17), made in such a manner as to rest freely on the support surface (1a) and to hold the pad (8) in place on the support surface (1a) without fastener means, and that the support pad (8) includes means (24) for suspending the support base (15) from the support plate (18) and for urging it resiliently in radial directions about a support plate axis (22') that is substantially perpendicular to the soleplate (20), which means are connected firstly to the support plate (18) and secondly to the support base (15) comprising the soleplate (20) and the bearing (17).

2. A support pad according to claim 1, characterized by the fact that the concave surface (18a) of the support plate (18) bearing against the spherical rolling element (16) is a surface of revolution having one of the following shapes: spherical, conical, paraboloidal, ellipsoidal.

3. An antiseismic support pad according to claim 1 or claim 2, characterized by the fact that it has a single spherical rolling element (16) rotatably mounted in a ball bearing (17) having a center of rotation disposed on the axis (22') of the support plate (18).

4. An antiseismic support pad according to claim 1 or claim 2, characterized by the fact that it comprises a

plurality of spherical rolling elements (16a, 16b, 16c, 16d, 16e, 16f, 16g) each disposed in a respective bearing (17a, 17b, 17c, 17d, 17e, 17f, 17g), the centers of rotation of the bearings (17a, 17b, 17c, 17d, 17e, 17f, 17g) being disposed on at least one circle centered on the axis (22') of the plate (18).

5. An antiseismic support pad according to claim 4, characterized by the fact that a central one of the bearings (17a) presents a center of rotation on the axis (22') of the plate (18), and the other bearings of the plurality of bearings (17a, 17b, 17c, 17d, 17e, 17f, 17g) are disposed around the axis (22') in such a manner that the centers of rotation of the spherical rolling elements (16b, 16g) of the other bearings of the plurality of bearings are disposed on a circle centered on the center of rotation of the central bearing (17a).

6. A pad according to any one of claims 1 to 5, characterized by the fact that the suspension and resilient return means (24) are constituted by at least three coil springs (24), each connected at a first longitudinal end to a peripheral portion (18b) of the support plate (18) and at a second longitudinal end to an outer peripheral portion of the support base (15) disposed inside the peripheral portion (18b) of the support plate (18), each of the springs (24) having a longitudinal direction extending substantially radially relative to the plate (18) and being upwardly inclined from the outer peripheral portion of the support base (15) towards the peripheral portion (18b) of the plate (18), the springs (24) being prestressed in traction so as to urge the support base (15) of the bearing (17) and of the rolling element (16) resiliently towards a position that is centered relative to the axis (22') of the support plate (18) and to put the spherical rolling element (16) into contact with an inner bearing surface

(18a) of the plate (18) while the soleplate (20) is not in contact with a support surface (1a), the support base (15) being freely suspended from the plate (18) via the springs (24).

7. An antiseismic pad according to any one of claims 1 to 6, characterized by the fact that the support plate (18) has a top portion (18c) in the form of a bushing having its axis on the axis (22') of the support plate (18), the bushing being internally tapped over at least a fraction of its length and including a guide slot (18d) opening out in its outer side surface and extending along the axis (22') of the support plate (18), and that the antiseismic pad (8) further includes an actuation shaft (26) having a threaded portion (26a) engaged by screw-fastening in the tapped portion (18'c) of the bushing (18c) of the plate (18) along the axis (22) of the plate, and at least one guide and engagement part (28, 29) in which the shaft (26) is mounted to rotate about the axis (22') of the support plate (18) and secured in translation with the at least one guide part (28, 29) including a guide element (30) having a guide peg inserted in the slot (18d) of the bushing (18c) of the plate (18) for guiding it in axial translation, whereby turning the shaft (26) secured in axial translation with at least one engagement and guide part (28, 29) so as to screw it in or out relative to the tapped opening (18'c) of the bushing (18c) of the plate, causes the engagement and guide part (28, 29) to move in translation along the axis (22') of the plate relative to the support plate (18).

8. A support device (5) for supporting a structure (2a) of a transportable installation (2) capable of being put into place on a support surface (1a), the support device being characterized by the fact that it comprises at least three antiseismic support pads (8) according to any

one of claims 1 to 7 and a rigid frame (10) resting on the support plates (18) of the antiseismic pads (8).

9. A support device (5) according to claim 8, enabling the vertical direction of a tall and slender structure (2a) of an installation (2) secured to the support device (5) to be adjusted, the support device being characterized by the fact that it includes at least one adjustable antiseismic pad (8) according to claim 7 in which the engagement and guide part (28, 29) is secured to the rigid frame (10) of the support device (5) and is movable in translation along the axis (22') of the support plate (18) of the antiseismic pad (8) by turning the actuation shaft (26).

10. A support device (5) according to claim 9, characterized by the fact that it has a frame (10) of generally square or rectangular shape and four adjustable antiseismic pads (8), each secured via its engagement and guide part (28, 29) to a respective corner portion of the frame (10).

11. The use of a support device according to any one of claims 8 to 10 for supporting an installation (2) for examining and inspecting nuclear power assemblies in a pool of a nuclear power station, the installation (2) being totally independent and capable of being installed without fittings in the pool (1) of the nuclear power station, because it is designed to stand on the bottom of the pool (1) via the soleplates (20) of support devices (5), and has its own means (3) for handling fuel assemblies, thus making it possible to avoid any reliance on fuel assembly handling means of the power station.